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Taxonomic notes on the afrotropical genera *Hapalogenius* Hagedorn, *Hylesinopsis* Eggers, and *Rhopalopselion* Hagedorn (Coleoptera, Curculionidae, Scolytinae)

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Abstract

Taxonomic confusion among the afrotropical scolytine genera *Hapalogenius* Hagedorn, *Hylesinopsis* Eggers and *Rhopalopselion* Hagedorn, and their synonyms is discussed with especial reference to the catalogues of Wood and Bright (1992), and Alonso-Zarazaga and Lyal (2009). A key is given to separate the three genera recognised, and the species considered to be included in each genus are listed. *Hylesinopsis* is resurrected from synonymy with *Hapalogenius*, and shown not to be closely related to it. *Chilodendron* Schedl is considered to be a synonym of *Hylesinopsis* and not of *Xylechinus* Chapuis. The following new synonymy is proposed at specific level: *Hapalogenius africanus* (Eggers) (= *Hapalogenius lesnei* Eggers, = *Metahylesinus brincki* Schedl); *Hapalogenius fuscipennis* (Chapuis) (= *Hapalogenius bimaculatus* Eggers); *Hapalogenius oblongus* (Eggers) (= *Metahylesinus striatus* Schedl); *Hylesinopsis fasciata* (Hagedorn) (= *Kissophagus punctatus* Eggers); *Phrixosoma niger* Eggers (= *Hapalogenius niger* Schedl). The following species are returned to *Hylesinopsis* from *Hapalogenius* to which they were transferred by Alonso-Zarazaga and Lyal (2009): *Hylesinopsis alluaudi* (Lepesme), *H. angolensis* (Schedl), *H. arabiae* (Schedl), *H. atra* (Nunberg), *H. confusa* (Eggers), *H. decellei* (Nunberg), *H. dubia* Eggers, *H. emarginata* (Nunberg), *H. fasciata* (Hagedorn), *H. ficus* (Schedl), *H. granulata* (Lepesme), *H. hirsuta* (Schedl), *H. joveri* (Schedl), *H. pauliani* (Lepesme), *H. punctata (*Eggers), *H. saudiarabiae* (Schedl). The following new combination is given: *Hylesinopsis leprosula* (Browne) from *Cryphalus* Erichson. New distributional records are given for some species.

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Keywords
Afrotropical region, Curculionidae, *Hapalogenius*, *Hylesinopsis*, *Rhopalopselion*, Scolytinae, new synonymy, new combination

Introduction

There has been considerable confusion in the literature about the relationships and limits of the scolytine genera *Hapalogenius* Hagedorn, *Hylesinopsis* Eggers, *Rhopalopselion* Hagedorn, and some other scolytine nominal genera from the Afrotropical region. In this paper, I attempt to resolve some of this confusion, and give some resultant taxonomic changes. The conclusions are based on the study of type material and other specimens from the following institutions: Deutsches Entomologisches Institut, Müncheberg (DEI), Hungarian Natural History Museum, Budapest (NHMB), Musée Royale de l'Afrique Centrale, Tervuren (MRAC), Museum and Institute of Zoology, Polish Academy of Sciences, Warsaw (MIZW), Museum fur Naturkünde der Humboldt Universität, Berlin (MNB), National Collection of Insects, Pretoria (NCIP), Natural History Museum, London (NHML), Naturhistorisches Museum, Wien (NMW), Transvaal Museum, Pretoria (TMP), Zoological Museum of Lund University (ZMLU), supplemented by specimens sent for identification by B. Jordal (University of Bergen, Norway), and in my own collection (RAB).

The genus *Rhopalopselion* was described by Hagedorn (1909) with *R. bituberculatum* Hagedorn the only included species. The genus *Hapalogenius* was described by Hagedorn (1912) with *H. globosus* the only included species. The genus *Hylesinopsis* was described by Eggers (1920b) with *H. dubius* the only included species. Schedl (1951) considered that *Rhopalopselion* and *Hapalogenius* (together with a third genus, *Pseudophloeotribus* Eggers) were synonymous, an opinion that he later retracted (Schedl 1963a). In fact, Schedl (1963a) placed *Rhopalopselion, Hapalogenius* and *Hylesinopsis* in three different tribes, Strombophorini, Hypoborini and Phloeosini [*sic*] respectively, within his subfamily Hylesinae [*sic*]. Wood (1978, 1986) continued to consider *Hapalogenius* as a synonym of *Rhopalopselion*, and included it and *Hylesinopsis* in the tribe Hylesinini. Between 1983 and 1988, Wood synonymised with *Hylesinopsis* the following genera: *Trypographus* Schedl, *Chilodendron* Schedl (Wood 1983); *Metahylesinus* Eggers (a replacement name for *Pseudohylesinus* Eggers nec Swaine), *Hapalophloeus* Schedl, *Hemihylesinus* Schedl (Wood 1984); *Glochicopterus* Schedl, a genus synonymised with *Metahylesinus* by Wood (1983); and *Aridiamerus* Schedl (Wood 1988a,b). In addition, Schedl (1957a) had already synonymised *Pseudophloeotribus* Eggers with *Metahylesinus*, a synonymy accepted by Wood (1986). Wood and Bright (1992) in their catalogue of Scolytidae maintain this position, and give further references to the genera and species mentioned.

Recently, Alonso-Zarazaga and Lyal (2009) recognised that Wood and Bright (1992) had placed the type species of *Hapalogenius* in synonymy with *Hylesinopsis fuscipennis*

(Chapuis), and consequently reinstated *Hapalogenius* as the valid name for the genus *Hylesinopsis.* This resulted in a large number (38) of recombinations of species transferred from *Hapalogenius* to *Hylesinopsis.* Alonso-Zarazaga and Lyal (2009) retain *Rhopalopselion* as a valid genus, with the same twenty-four species included by Wood and Bright (1992).

Wood (1986) has suggested that *Hylesinopsis sensu* Wood and *Rhopalopselion sensu* Wood are rapidly evolving genera, and that they could either be amalgamated into a single, large genus, or split up into a number of small genera. I believe that the most satisfactory solution at present is to distinguish three genera, based on morphological and biological criteria: *Rhopalopselion, Hapalogenius* and *Hylesinopsis.* The first two of these genera are closely related, the third, *Hylesinopsis*, is quite distinct from them. Figures 1–3 illustrate a representative species of each genus. The three genera may be distinguished using the following key, which also serves to diagnose the genera:

1. Antennal funicle 7-segmented, club rounded to ovate with several annuli of closely-placed hairs. Pronotum almost quadrate, without a subapical constriction, the anterior angles prominently spinulose with strong asperities. Scutellum rather large, quadrate. Fifth abdominal ventrite with a median, approximately triangular process. Protibia with closely placed socketed teeth, and a well-developed tarsal groove on the anterior side. Large or moderately sized, stoutly-built, black species, 2.5 mm or more long. Xylophagous..... .....***Rhopalopselion*** **Hagedorn**

– Antennal funicle 6- or 7-segmented, club sometimes more elongate, with or without more rows of setae than segments. Pronotum trapezoidal, narrowed anteriorly, usually with a subapical constriction, the anterior angles less prominently or not spinulose, the asperities often weakly developed. Scutellum small or not visible. Fifth abdominal ventrite without a median process. Protibia with or without socketed teeth; tarsal groove strongly or weakly developed. Smaller, less robust, usually brown or ferruginous species, usually less than 2.5 mm long. Phloeophagous, except *Hapalogenius horridus* (Eggers), which is reportedly xylophagous..... **2**

2. Antennal club oblong-oval or egg-shaped, apex rounded, sometimes septate, usually with 4–7 annuli of closely placed hairs not corresponding to the sutures. Funicle 6- or 7-segmented, at least the last 1–2 segments much more strongly transverse than the more basal segments, symmetrically inserted into club. Eye usually shallowly emarginate. Costate ridge extends from procoxa to anteroventral margin of pronotum. Apical half of protibia widened, with convex outer margin rounded to apex and bearing 5–9 small, closely placed socketed teeth. Anterior face of protibia with well-developed, glabrous tarsal groove, anterior tarsi retractile into groove ..... ***Hapalogenius*** **Hagedorn**

– Antennal club elongate, apex somewhat pointed, basal suture usually partly or completely septate, with no more than 3 rows of setae on outer face. Funicle always 6-segmented, the apical segments not strongly transverse, usually only slightly wider than more basal segments, more or less asymmetrically inserted

into club. Eye entire. Costate ridge between procoxa and anteroventral margin of pronotum absent. Outer margin of protibia not convexly rounded in apical half, without a series of small socketed teeth, extended apically into a backwardly-pointing spine, at most 3 smaller spines basal to it on the outer margin, apical margin truncate, with 1–3 similar spines. Anterior face of protibia with a very short tarsal groove, tarsi not retractile .... ***Hylesinopsis*** **Eggers**

Systematics

Hapalogenius Hagedorn

Fig. 1

Hapalogenius Hagedorn, 1912: 352. (Type species: *Hapalogenius globosus* Hagedorn, monobasic).

Pseudohylesinus Eggers, 1920a: 234. (Type species: *Pseudohylesinus togonus* Eggers, monobasic, preoccupied by Swaine 1917: 11).

Metahylesinus Eggers, 1922: 165. (Type species: *Pseudohylesinus togonus* Eggers, automatic, replacement name for *Pseudohylesinus* Eggers nec Swaine).

Pseudophloeotribus Eggers, 1933: 18. (Type species: *Pseudophloeotribus africanus* Eggers, original designation). (The subsequent designation by Schedl 1960: 75 was unnecessary.).

Glochicopterus Schedl, 1954: 75. (Type species: *Glochicopterus baphiae* Schedl, monobasic).

Hapalophloeus Schedl, 1966: 363. (Type species: *Metahylesinus brincki* Schedl, original designation).

Hemihylesinus Schedl, 1967: 224. (Type species: *Hemihylesinus endroedyi* Schedl, monobasic).

Aridiamerus Schedl, 1982: 284. (Type species: *Aridiamerus angolensis* Schedl , monobasic). (*Hylesinopsis angolana* Wood 1988a: 32 is an unnecessary replacement name.)

Eggers (1927), having compared the types of *Phloeotribus fuscipennis* (Chapuis, 1869) and *Hapalogenius globosus*, concluded that the species were identical. Chapuis' name had priority, but the species did not belong in *Phloeotribus* and was transferred to *Hapalogenius*. This conclusion was accepted by Schedl (1963a). Wood and Bright (1992: 94) placed *P. fuscipennis* and its synonym *H. globosus* in *Hylesinopsis,* overlooking the fact that *Hapalogenius* has priority, but they also (Wood and Bright 1992: 96) cited *Hapalogenius*, with its type species, *H. globosus*, as a synonym of *Rhopalopselion*. As noted above, Alonso-Zarazaga and Lyal (2009) reinstated *Hapalogenius* as the correct name for the species treated by Wood and Bright (1992) under *Hylesinopsis*. I consider that *Hapalogenius* is a valid genus, but that it is distinguished from *Rhopalopselion* and *Hylesinopsis* by the characters given in the key above, and with the synonymy given. I have examined the type species of all the genera involved. In addition to the type species listed above, the following 30 nominal species

Figure 1. *Hapalogenius oblongus* (Eggers), dorsal, **A** and lateral, **B**.

can be assigned to the genus: *Hapalogenius acaciae* Schedl*, *H. congonus* Schedl, *H. immaturus* Schedl*, *H. lesnei* Eggers, *H. lonchocarpae* Schedl*, *H. maculatus* Schedl*, *H. occidentalis* Schedl*, *H. primus* Schedl, *H. rufus* Schedl*, *H. senegambiensis* Schedl, *H. subseriatus* Schedl*, *H. suturalis* Schedl*, *Hylesinopsis kenyae* Wood, *H. ugandae* Wood*, *Hylesinus horridus* Eggers, *H. pusillus* Gerstaecker, *Metahylesinus brincki* Schedl*, *M. dimorphus* Schedl, *M. hispidus* Eggers, *M. orientalis* Eggers*, *M. quadrituberculatus* Schedl, *M. striatus* Schedl*, *M. sulcatus* Eggers*, *Pseudophloeotribus africanus* Eggers*, *P. oblongus* Eggers*, *P. rhodesianus* Eggers*, *P. seriatus* Eggers, *P. squamosus* Eggers*, *P. variegatus* Eggers*, *Rhopalopselion atakorae* Schedl* (* - type(s) examined). The genus clearly belongs in the tribe Hylesinini *sensu* Wood (1986a), but this tribe seems likely to be paraphyletic (e.g. Farrell et al. 2001, Jordal et al. 2008, McKenna et al. 2009), and may need to be redefined.

New synonymy in *Hapalogenius*

***Hapalogenius africanus* (Eggers)**

Pseudophloeotribus africanus Eggers 1933:19.
Rhopalopselion africanus (Eggers): Schedl 1951: 1104.
Metahylesinus africanus (Eggers): Schedl 1960: 76.

Hylesinopsis africanus (Eggers): Wood 1986: 39.
Hapalogenius africanus (Eggers): Alonso-Zarazaga & Lyal 2009: 69.
Hapalogenius lesnei Eggers 1943: 73, **syn. n.**
Rhopalopselion lesnei (Eggers): Wood & Bright 1992: 97.
Metahylesinus brincki Schedl 1957b: 323, **syn. n.**
Glochicopterus brincki (Schedl): Schedl 1963b: 262.
Hapalophloeus brincki (Schedl): Schedl 1966: 363.
Hylesinopsis brincki (Schedl): Wood 1984: 225; Wood & Bright 1992: 93.

I have examined the female holotype of *Pseudophloeotribus africanus* (NHML) from Zambia, and other specimens from Zimbabwe (NHML), and compared them with syntypes of *Hapalogenius lesnei* (NMW), and with specimens of *M.brincki* from Namibia which had earlier been compared with syntypes of this species in ZMLU. I have also examined specimens from Angola, Botswana, Namibia, and South Africa (NICP, TMP, RAB). Only a single species is represented, which varies in length from 1.5–2.2 mm, and in size-related characters, such as the number of teeth (6 or 8) on the anterior margin of the pronotum, and the detailed arrangement of the setae on the elytra.

It may be noted that Eggers (1933) described the genus *Pseudophloeotribus* as having seven funicular segments. The genus *Hapalophloeus* was separated from *Metahylesinus* because its type species (*M. brincki*) had only six funicular segments (Schedl 1966). I can confirm that the latter figure is correct. A seventh segment appears to have become fused to the base of the antennal club. The number of funicular segments is normally constant within a species in the Hylesinini.

H. africanus is quite widely distributed in southern Africa. In addition to the distribution given by Wood and Bright (1992), it is known from Angola, Botswana and Mozambique. However, no host plants have been recorded. Specimen labels indicate that the species has been collected mostly at light.

Hapalogenius fuscipennis (Chapuis)

Phloeotribus fuscipennis Chapuis 1869: 44.
Hapalogenius fuscipennis (Chapuis): Eggers 1927: 196.
Hylesinopsis fuscipennis (Chapuis): Wood & Bright 1992: 94.
Hapalogenius globosus Hagedorn 1912: 352; Eggers 1927: 196 (Synonymy).
Hapalogenius bimaculatus Eggers 1933: 22, **syn. n.**

Eggers (1933) distinguished his new species *H. bimaculatus* from *H. fuscipennis* by the presence of two flecks of dark setae on the posterior third of the elytra among the pale setae of the remainder of the elytra. I have compared the holotype of *H. bimaculatus* (NHML) with a series of specimens of *H. fuscipennis* from South Africa (NCIP, TMP). The series includes specimens in which the elytral setae are wholly pale, intermediates

resembling *H. bimaculatus*, and specimens in which the setae are almost entirely dark. In the absence of any other distinguishing characters, I conclude that *H. bimaculatus* is a synonym of *H. fuscipennis*. The shape of the median row of setae on the elytral interstriae varies from almost circular to somewhat elongate and truncate in different individuals. The species is known only from South Africa and Mozambique. Wood and Bright (1992) give Zimbabwe, but this appears to be in error for Mozambique. The only hosts recorded are *Millettia grandis* ('Umzimbiti' of Hagedorn 1912) (Leguminosae), and an unidentified tree 'sandalo'. Hagedorn (1912) briefly described and illustrated the gallery system under bark.

***Hapalogenius oblongus* (Eggers)**

Pseudophloeotribus oblongus Eggers 1935: 299.
Metahylesinus oblongus (Eggers): Schedl 1960: 80.
Hylesinopsis oblongus (Eggers): Wood and Bright 1992: 95.
Hapalogenius oblongus (Eggers): Alonso-Zarazaga and Lyal 2009: 69.
Metahylesinus striatus Schedl 1957: 865, **syn. n.**

The holotypes of both *oblongus* and *striatus* are in NHML. They have been directly compared, and I consider that they represent a single species, with minor variation in the density of the vestiture. I have also examined a series collected by Dr. B. Valentine in Kenya, and compared them with the holotype of *H. oblongus*. The species is recorded from Kenya, Uganda and Tanzania, and from the host tree genera: *Acacia* (Leguminosae), *Croton* (Euphorbiaceae) and *Eucalyptus* (Myrtaceae). This suggests that it is a polyphagous species.

***Phrixosoma nigra* (Eggers)**

Bothryperus niger Eggers 1933: 21
Phrixosoma nigra (Eggers): Wood & Bright, 1992: 190
Hapalogenius niger Schedl 1952: 7, **syn. n.**
Metahylesinus niger (Schedl): Schedl, 1960: 79

I have examined the holotype of *Phrixosoma nigra* (NHML), and the two syntypes of *Hapalogenius niger* and a further specimen standing under this name in the Schedl collection (NMW). Both species were described from Uganda, from the same host species (*Harungana madagascariensis* (Clusiaceae)), and are clearly synonymous. Schedl (1952) appears not to have noticed that the eyes of his species are bipartite, and that the antennal club is asymmetrical with a partly septate first segment – characteristics of *Phrixosoma* and not of *Hapalogenius.* Schedl (1963a) briefly describes the biology of the species, and illustrates the gallery system (as *Bothryperus niger*).

Figure 2. *Hylesinopsis dubius* Eggers, dorsal, **A** and lateral, **B**.

Hylesinopsis **Eggers, stat. res.**
Fig. 2

Hylesinopsis Eggers, 1920b: 40. (Type species: *Hylesinopsis dubia* Eggers, monobasic).
Trypographus Schedl, 1950: 213. (Type species: *Trypographus joveri* Schedl, monobasic).
Chilodendron Schedl, 1953: 74. (Type species: *Chilodendron planicolle* Schedl, monobasic).

These genera share the type of eye, antenna and protibia given in the key above. *Trypographus* and *Chilodendron* were synonymised with *Hylesinopsis* by Wood (1983). Wood and Bright (1992: 92) give *Chilodendron* as a synonym of *Hylesinopsis*, but its type species, *C. planicolle*, is also listed on page 118 under the genus *Xylechinus* Chapuis, with a note that the transfer of the species was to be published by Wood in a paper in press in 1992. However, this paper was apparently never published. Alonso-Zarazaga and Lyal (2009), apparently basing their decision on the notes in Wood and Bright (1992), synonymise *Chilodendron* with *Xylechinus*. I have examined a syntype of *C. planicolle* (NMW), and find that the synonymy given by Alonso-Zarazaga and Lyal (2009) appears to be excluded by the 6-segmented funicle (always 5-segmented in *Xylechinus*), entire eye (always emarginate in *Xylechinus*),

fore tibia without socketed teeth, and plumose metepisternal setae (scalelike in *Xylechinus*), even though the pronotum lacks asperities (as in some *Xylechinus*) (Wood 1982, 1986). Until further detailed studies are made of the species here included in *Hylesinopsis*, I prefer to leave *Chilodendron,* and its single included species, as a synonym of that genus.

The lack of close relationship of this genus to *Hapalogenius*, based on morphology, seems to be corroborated by some analyses based on molecular data. In the phylogenetic tree of Farrell et al. (2001: Fig. 6), the single species of *Hylesinopsis* studied (*H. dubia*) is widely separated from the two species of *Hapalogenius* included (*H. oblonga, H. seriata*) (both labelled as *Hylesinopsis* sp. in Farrell et al. 2001). In the phylogenetic tree of McKenna et al. (2009: Fig.2), the same species of *Hylesinopsis* (*H. dubia*) (McKenna, pers. comm. 2009) is widely separated from the two genera (*Alniphagus*, *Hylesinus*) currently included in the tribe Hylesinini. In both cases, *Hylesinopsis* seems to be more closely related to genera included in the subfamily Scolytinae *sensu* Wood by Wood (1986) and Wood and Bright (1992). One phylogenetic tree (Jordal et al. 2008, Fig. 4) suggests a closer relationship between *Hylesinopsis dubia, Hapalogenius seriata*, and *Hylesinus varius* (F.), but in other analyses the relationship between these species is unresolved (Jordal et al. 2008). The tribal classification of the Scolytinae *sensu* Alonso-Zarazaga and Lyal needs revision (e.g. Jordal et al. 2008, Alonso-Zarazaga and Lyal 2009), and no attempt to place *Hylesinopsis* in an existing tribe is made here.

In addition to the type species, *H. dubia*, and the type species of *Trypographus* (*T. joveri*), the following nominal species must be removed from *Hapalogenius* to which they were transferred by Alonso-Zarazaga and Lyal (2009) and returned to *Hylesinopsis* in which they are listed by Wood and Bright (1992): *Chilodendron saudiarabiae* Schedl, *Hylesinopsis angolensis* Schedl, *H. arabiae* Schedl, *Kissophagus alluaudi* Lepesme, *K. confusus* Eggers*, *K. fasciatus* Hagedorn*, *K. ficus* Schedl*, *K. granulatus* Lepesme, *K. pauliani* Lepesme, *K. punctatus* Eggers, *Trypographus ater* Nunberg, *T. decellei* Nunberg, *T. emarginatus* Nunberg, *T. hirsutus* Schedl*. (* - type(s) examined). In addition, the following species belongs to the genus: *Cryphalus leprosulus* Browne* (see below). References to all these species can be found in Wood and Bright (1992).

The species are normally associated with trees of the family Moraceae (*Ficus, Morus, Bosqueia, Treculia*). There are only three records from other families, one each from Anacardiaceae, Meliaceae and Rosaceae. This narrow host range contrasts with the wide host range of *Hapalogenius* and *Rhopalopselion*.

On the basis of the limited distributional data available, nearly 50% (8 ex 17) of the species appear to be confined to montane habitats above 1500m. This includes the following species: *alluaudi, confusa, emarginata, fasciata, granulata, pauliani, punctata, saudiarabiae*. Eight species appear to be more lowland species: *angolensis, arabiae, atra, decellei, dubia, ficus, joveri, leprosula*. *H. planicolle* was described from Mt. d'Ambre in Madagascar, but no altitude is given.

Taxonomic changes in *Hylesinopsis*

Hylesinopsis fasciata (Hagedorn)

Kissophagus fasciatus Hagedorn, 1909: 737
Hylesinopsis fasciatus (Hagedorn): Wood & Bright 1992: 94.
Chilodendron fasciatus (Hagedorn): Schedl 1963b: 261
Kissophagus punctatus Eggers, 1932: 28, **syn. n.**

I have compared two specimens of *K. punctatus* (NMW), which had been compared with the damaged holotype by Eggers and Schedl respectively, with a series of specimens of *H. fasciata* in my own collection from Tanzania and Nigeria. The latter had earlier been compared to a syntype of that species, and other specimens from East Africa in NHML. Eggers (1932) distinguished the two species by the more elongate shape, stronger shine, more distinct puncturation, and the presence of granules on the basal part of the elytra. Comparisons suggest that *K. punctatus* lies at one end of the range of variation found in *H. fasciata*. The small differences noted by Eggers (1932) are insufficient to separate *K. punctatus* as a separate species, and the latter is, therefore, placed in synonymy. Wood and Bright (1992) cite a holotype for *H. fasciata.* However, Hagedorn described the species from "compluria specimina", indicating that he had a series of syntypes before him.

Hylesinopsis leprosula (Browne), comb. n.

Cryphalus leprosulus Browne 1980: 774.

I have examined the holotype (MRAC), and twenty-one paratypes (MRAC, NHML). It is not clear why Browne (1980) assigned this species to the genus *Cryphalus* Erichson. Such an assignment within the tribe Cryphalini is ruled out by the six–segmented funicle, the elongate eyes, the lack of a visible scutellum, the raised and crenulate basal margin of the elytra, and other characters. The species is here removed from *Cryphalus* and transferred to *Hylesinopsis*.

Rhopalopselion Hagedorn
Fig. 3

When the species described in *Hapalogenius* are omitted, the remaining eleven species included in *Rhopalopselion* in Wood and Bright (1992) form a cluster of closely related species distinguished by the quadrate pronotum with strong asperities at the antero-lateral corners, and the large quadrate scutellum. The apical visible sternite

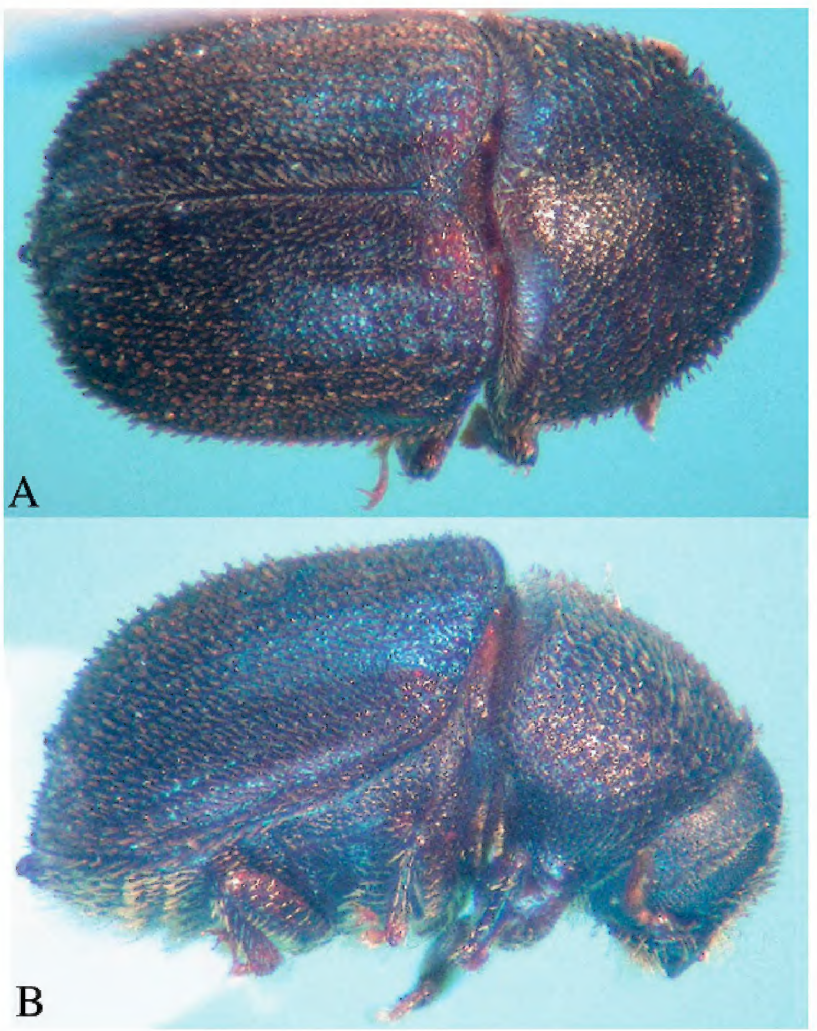

Figure 3. *Rhopalopselion thompsoni* Schedl, dorsal, **A** and lateral, **B**.

has a triangular, median projection. The beetles are strongly built, black in colour, and 2.5–4.5 mm long. All those with known habits are xylophagous (Schedl 1960, Browne 1963). Like *Hapalogenius*, the genus belongs in the tribe Hylesinini *sensu* Wood (1986a)

In addition to the type species, *Rhopalopselion bituberculatum* Hagedorn*, I consider the following species to belong in the genus: *R. atrum* Eggers, *R. confusum* Eggers, *R. conjungens* Schedl*, *R. dentatum* Nunberg*, *R. grande* Schedl, *R. immune* Eggers*, *R. intermedium* Schedl, *R. nitidum* Schedl, *R. orientale* Schedl*, *R. thompsoni* Schedl*. (* - type(s) examined). The remaining species listed under the genus by Wood & Bright (1992) belong in the genus *Hapalogenius* (see above) in which almost all were originally described. It may be noted here that the holotype of *R. bituberculatum* is in DEI and not MNB as stated by Wood and Bright (1992).

New records of *Hapalogenius* and *Hylesinopsis*

The following new records extend the known geographical distribution of the species.

Hapalogenius atakorae (Schedl). GHANA: Northern Reg., Nakpanduri escarp., 10°38'N, 0°12'W, 19.vi.1971, under tree bark (*Endrödy-Younga*) (37exx.) (TMP, RAB).

Hapalogenius pusillus (Gerstaecker). SOUTH AFRICA, West Cape, Knysna, Gouna, 6.xi.2006, ex *Virgilia oroboides* (*B.Jordal*) (4exx.) (RAB) (Further specimens in B.Jordal's collection).

Hapalogenius sulcatus (Eggers). NAMIBIA: East Caprivi, Katima, Mulilo, 17°29'S, 24°17'E, 3–8.iii.1992 (*M.Uhlig*) (1 ex.); Kavango, Kaudom Camp, 18°21'S, 20°43'E, 22–25.ii.1992, lux (*M.Uhlig*) (1 ex.); Kavango, Mahango Game Res., 20.i.1993 (*F. Koch*) (ZMB); SOUTH AFRICA: E.Transvaal, Berlin, 300m below, 25°33'S, 30°43'E, 4.ii.1987, UV light (E-Y:2416) (1 ex.); N.Transvaal, Entabeni – L.Trich.,c.23°05'S, 30°12'E, airplankton (E-Y:1138) (1 ex.); Tvl., Nelshoogte, gallery for. below St., 25°51'S, 30°53'E, 4.xii.1987, UV light (E-Y:2354) (1ex.); Tvl., Nelspruit Nat.Res., dry valley, 25°29'S. 30°55'E, 8.ii.1987, UV light, top valley (E-Y:2432) (4 exx.) (all coll. *Endrödy-Younga*) (TMP, RAB); ZIMBABWE: Chipinga, 1.ii.1990 (*C.R.Owen*) (1 ex.) (TMP); Kyle Recr. Park at Lake Mutirikwi, 20°13'S, 31°00'E, 1–5.xii.1993, lux (*M.Uhlig*) (1 ex.) (ZMB).

Hylesinopsis dubia Eggers. GUINEA: Seredou, 4.iv.1975, lux (*Zott*) (1 ex.) (ZMB).

Hylesinopsis fasciata (Hagedorn). SOUTH AFRICA : S.Natal, Weza, Bangeni Forest, 30°38'S, 29°39'E, 21.xi.1989, beating in forest (*Endrödy & Klimaszew*) (E-Y:2708) (1 ex.); as previous except: 30°32'S, 29°41'E, 23.xi.1989 (E-Y: 2716) (1 ex.) (TMP).

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References

Alonso-Zarazaga MA, Lyal CHC (2009) A catalogue of family and genus group names in Scolytinae and Platypodinae with nomenclatural remarks (Coleoptera: Curculionidae). Zootaxa 2258: 1–134.

Beaver RA (1998) New synonymy, new combinations and taxonomic notes on Scolytidae and Platypodidae (Insecta: Coleoptera). Annalen des Naturhistorisches Museum, Wien 100B: 179–192.

Browne FG (1963) Notes on the habits and distribution of some Ghanaian bark beetles and ambrosia beetles (Coleoptera: Scolytidae and Platypodidae). Bulletin of Entomological Research 54: 229–266.

Browne FG (1980) Some new species of Scolytidae and Platypodidae from Africa and the Seychelles Islands. Revue de Zoologie Africaine 94: 773–779.

Chapuis F (1869) Synopsis des Scolytides. J.Desoer, Liège, 56pp.

Eggers H (1920a) 60 neue Borkenkäfer (Ipidae) aus Afrika, nebst zehn neuen Gattungen, zwei Abarten. Entomologische Blätter 15(1919): 229–243.

Eggers H (1920b) 60 neue Borkenkäfer (Ipidae) aus Afrika, nebst zehn neue Gattungen, zwei Abarten. (Fortsetzung). Entomologische Blätter 16: 33–45.

Eggers H (1927) Neue Borkenkäfer (Ipidae, Col.) aus Africa (Nachtrag III). Revue de Zoologie et de Botanique Africaines 15: 172–199.

Eggers H (1932) Neue Borkenkäfer (Ipidae, Col.) aus Africa (Nachtrag IV). Revue de Zoologie et de Botanique Africaines 22: 23–37.

Eggers H (1933) Neue Borkenkäfer (Col., Scolytidae) aus Africa (Nachtrag V). Stylops 2: 16–23.

Eggers H (1943) Neue Borkenkäfer (Ipidae) aus Afrika. Nachtrag VIII. Entomologische Blätter 39: 70–76.

Farrell BD, Sequeira AS, O'Meara BC, Normark BB, Chung JH, Jordal BH (2001) The evolution of agriculture in beetles (Curculionidae: Scolytinae and Platypodinae). Evolution 55: 2011–2027.

Hagedorn M (1909) Diagnosen bisher unbeschreibener Borkenkäfer. II Serie. Deutsche Entomologische Zeitschrift 1909: 733–746.

Hagedorn M (1912) Neue Borkenkäfergattungen und Arten aus Afrika (Col.). Deutsche Entomologische Zeitschrift 1912: 351–356.

Jordal BH, Gillespie JJ, Cognato AI (2008) Secondary structure alignment and direct optimization of 28S rDNA sequences provides limited phylogenetic resolution in bark and ambrosia beetles (Curculionidae: Scolytinae). Zoologica Scripta 37: 43–56.

McKenna DD, Sequeira AS, Marvaldi AE, Farrell BD (2009) Temporal lags and overlap in the diversification of weevils and flowering plants. Proceedings of the National Academy of Sciences 106: 7083–7088.

Schedl KE (1951) Fauna aethiopica VII. Bark and ambrosia beetles from Dahomey and Togo collected by Mr.A.Villiers. Bulletin de l'Institut Française de l'Afrique Noire 13: 1103–1106.

Schedl KE (1952) Scolytoidea Congolais IV. Bulletin de l'Institut royale des Sciences naturelles de Belgique 28(32): 1–12.

Schedl KE (1957a) Scolytoidea nouveaux du Congo Belge II. Annales du Musée royale du Congo Belge, Tervuren, Série in 8vo, Sciences Zoologiques 56: 1–162.

Schedl KE (1957b) Coleoptera: Scolytidae and Platypodidae. In: Hanström B, Brinck P, Rudebeck G (Eds), South African Animal Life. Results of the Lund University expedition in 1950–1951, vol.IV, 323–326.

Schedl KE (1960) Scolytidae und Platypodidae Afrikas. Band I. (Fortsetzung). Revista de Entomologia Moçambique 3: 75–154.

Schedl KE (1963a) Scolytidae und Platypodidae Afrikas. Band I. (Fortsetzung). Revista de Entomologia Moçambique 4(1961): 335–742.

Schedl KE (1963b) Zur Synonymie der Borkenkäfer, IX. Entomologische Abhandlungen und Berichten aus dem Staatliches Museum für Tierkunde, Dresden 28: 257–268.

Schedl KE (1965) New bark and timber beetles forwarded by the Commonwealth Institute of Entomology. Novos Taxos Entomologia 38: 3–15.

Schedl KE (1966) Interessante und neue Scolytoidea aus Afrika. Revista de Entomologia Moçambique 8 (1965): 349–379.

Wood SL (1978) A reclassification of the subfamilies and tribes of Scolytidae (Coleoptera). Annales de la Société entomologique de France (N.S.) 14: 95–122.

Wood SL (1983) New synonymy and new species of American bark beetles (Coleoptera: Scolytidae), Part IX. Great Basin Naturalist 43: 647–659.

Wood SL (1984) New generic synonymy and new genera of Scolytidae (Coleoptera). Great Basin Naturalist 44: 223–230.

Wood SL (1986a) A reclassification of the genera of Scolytidae (Coleoptera). Great Basin Naturalist Memoirs 6: 1–126.

Wood SL (1986b) New synonymy and new species of American bark beetles (Coleoptera: Scolytidae), Part XI. Great Basin Naturalist 46: 265–273.

Wood SL (1988a) Nomenclatural changes and new species of Scolytidae (Coleoptera). Great Basin Naturalist 48: 31–38.

Wood SL (1988b) Nomenclatural changes and new species of Scolytidae (Coleoptera), Part II. Great Basin Naturalist 48: 188–195.

Wood SL, Bright DE (1992) A catalog of Scolytidae and Platypodidae (Coleoptera), Part 2: Taxonomic index, Volume A. Great Basin Naturalist Memoirs 13: 1–833.